Appendix A

Unit Level Logistics System–Aviation

DESCRIPTION

A-1. ULLS-A is a computerized system that automates and integrates flight line, PC and QC, technical supply, and aircraft readiness/status reporting into a single standard Army management information system. ULLS-A automates the manual supply and maintenance forms and other unit level tasks that were accomplished in a manual mode. ULLS-A is now the system of record for all PLL and TAMMS-A operations at the unit level.

A-2. ULLS-A does not change logistics principles or modify regulations that pertain to an aviation unit. However, there will be changes in procedures related to records management and readiness reporting that will need to be specified in SOP. Ensuring the adequacy of the unit SOP is a command responsibility.

UNIT LEVEL LOGISTICS SYSTEM—AVIATION STRUCTURE

AVIATION UNIT MAINTENANCE

A-3. The AVUM company is the real nerve center for maintenance management through the use of ULLS-A. There is a four-system LAN at the AVUM company with work stations for the technical supply section, qc section, and PC office. The fourth terminal is not a workstation; it functions as a dedicated file server and contains the consolidated ULLS-A data files. The system allows for the automated recording and reporting of materiel status, supply transactions, component/inspection projections, statistical data gathering, TBO listing, and historical records data.

FLIGHT COMPANY

A-4. Systems are placed with the crew chiefs at the flight company on small, portable, laptop computers. These computers maintain aircraft operational records, to include status of aircraft and parts demands. The flight company systems are kept synchronized and current with the LAN by a data transfer process that can be accomplished by modem (the primary and most preferred method) or diskette. Data transfer between the flight companies and LAN should occur at least once daily. The data flow will be two-directional. Data generated at the LAN (work order status, parts requests, parts status, component historical record up-date, and aircraft inventory records) flow to the flight companies. Other information generated at the companies (aircraft faults records, flight time, servicing data, and flight crew data) is transferred from the flight company to the LAN.

AVIATION INTERMEDIATE MAINTENANCE

A-5. Aircraft sent to AVIM, on work order, are accompanied by two separate diskettes—an aircraft transfer diskette, and a support maintenance request diskette. The aircraft temporary transfer diskette holds a copy of all records for the customer's aircraft and provides the AVIM with the ability to manage operational and historical aircraft records.

The support maintenance request is managed in SAMS-1. The PC section of an AVIM unit maintains both the SAMS-1 and ULLS-A. ULLS-A provides the same electronic record keeping for customer and float aircraft. The system interacts with support maintenance through the SARSS and the SAMS-1. This interaction is done through diskette transactions. This is also a two-way information transaction, for example, AVIM also provides daily work order statuses to AVUM. AVIM additionally supports AMSS status tracking from organizational to support, and receives RX work orders from SARSS, which are managed on the SAMS-1 system.

DEPOT

A-6. Aircraft sent to the organic depot are accompanied by a transfer diskette that supplies a copy of all the records. After aircraft delivery, the depot inducts the electronic records into the production maintenance processes along with the aircraft in an effort to achieve a seamless data flow of updated TAMMS-A electronic documents back to the field. ULLS-A aircraft data are placed on a LAN connected server with approximately 50 user workstations inputting changes to records during the various stages of maintenance. Not all ULLS-A features are employed at the depot. The predominant depot interface is with historical process. As new or overhauled components are assembled to the airframe structure, the ULLS-A system data are updated on the LAN. Before ground run (MOC) and maintenance test flight, the latest ULLS-A data extracted from the LAN server are used to print a paper flight pack. Owning unit personnel receive an ULLS-A out-brief and transfer diskette at the time of aircraft pickup.

READINESS, SUPPLY, AND MAINTENANCE INFORMATION

A-7. This information is exchanged within each level of ULLS-A, and with other automated systems, via telecommunications and floppy diskette. The goal of ULLS-A is to help units achieve the highest level of readiness possible. Faster request and receipt of repair parts, immediate access to detailed aircraft status, maintenance, and supply information and increased knowledge of aircraft readiness contribute to overall unit readiness.

AVIATION UNIT LEVEL LOGISTICS SYSTEM—AVIATION INTERFACES AND TELECOMMUNICATIONS CAPABILITIES

A-8. ULLS-A exchanges data with other automated systems. These requirements to send data are called interfaces. Sometimes data are exchanged between the interfacing systems; at other times, the data flow in only one direction. The interfaces may be transferred by telecommunications or floppy diskette.

TELECOMMUNICATIONS

A-9. ULLS-A telecommunications capability uses either the tactical communications system employing MSE or the garrison/commercial telephone lines. The ability to send data via tactical communications may be limited by the feasibility to gaining access to the MSE SEN. SENs provide tactical voice and data telephone service to brigade and battalion level commanders and staff. When ULLS-A access to tactical telephone service is required, your unit must provide the TTA for MSE interface and run the field wire (WF-16) to the SEN. When using garrison/commercial telephone service, modems replace TTAs; installation dial central telephone systems replace field wire, junction boxes, and MSE equipment. Once tactical or garrison/ commercial telephone service is established, data can be sent in three ways—concentrator (Go-to-War), point-to-point, or

CAISI methods. ULLS-A processes are limited to garrison/commercial telecommunications: the OSC and the data transfer between AVUM and the flight companies. The ULLS-A modem dials up the DDN TAC and establishes contact through Gateway.

Concentrator

A-10. The go-to-war communications method employs the concentrator. The concentrator supporting a typical aviation brigade is usually established at the material management center or the closest support battalion. It is a computer that serves to receive files sent by customers and hold them until the intended receiver calls in to it and receives files through BLAST file transfer. ULLS-A users must coordinate with the concentrator operator in advance to determine appropriate concentrator phone numbers, addresses and passwords. ULLS-A parameters must be sent correctly for concentrator use. All systems employing the concentrator must use BLAST communications. This method of communications requires an interface device, such as modem or TTA, and appropriate telephone service (garrison or tactical) between each computer and the concentrator.

Point-to-Point

A-11. Point-to-point allows a computer, such as ULLS-A or TACCS, to send files directly to another computer. Both computers must use BLAST. This method of communications requires an interface device, such as Hayes modem or TTA, and appropriate telephone service (garrison or tactical) between the two computers. When sending or receiving via point-to-point, users must coordinate in advance to determine appropriate phone numbers, and to ensure the receiving system is waiting in the BLAST receive mode.

Combat Service Support Automated Information Systems Interface

A-12. The CAISI process will allow the user to transmit and/or receive any file via garrison or tactical telecommunications devices directly to/from another computer using the BLAST protocol. Any ULLS-A can send any file to any other computer that is also using BLAST and also connected to the same communications network. The Telecommunications interface process may be used to send or receive the file. Advance coordination is required between the ULLS-A and the other computer.

FLOPPY DISKETTE

A-13. The following interfaces are via floppy diskette, and are provided only as required:

- Active Army units receive the MMDF from SAMS-2, while National Guard units receive this update direct from LOGSA.
- All units receive the LCF direct from AMCOM. The LCF files are sent to Development Center Lee, Fort Lee, Virginia, for QC purposes, with the current ULLS-A baseline. Once the QC proves satisfactory, Fort Belvoir receives the LCF files and distributes them to ULLS-A fielded units.
- Any ULLS-A workstation can send the AMSS commander's statement to LOGSA by mailing the floppy diskette. This must be done monthly, at the end of the report period. Telecommunications is not to be used, as LOGSA is not set up to receive multifiles with the same name. The AMSS “End of Report Period” must be processed to identify status which did not meet DA goals. Annotations are made to the Commander’s Statement process and then printed and processed to diskette.

The diskette is mailed to LOGSA. If the commander's statement is not processed, the following month end-of-report-period can not be accomplished, since this action resets the report period date to the next period.

- Any ULLS-A workstation can send crew flight data to a computer in flight operations designed to process DA Form 759 (Individual Flight Record and Flight Certificate–Army) via floppy diskette. These data will be provided as required by the command.
- Supply catalog is sent to ULLS-A TS workstation by CD-ROM from LOGSA.
- Flight company tailored Class IX catalog is sent to each flight company ULLS-A from ULLS-A TS workstation.
- The 4 basic aircraft transfer situations are the following:
  - Aircraft can be transferred from one ULLS-A system to another within the flight company. This action is performed at the flight company and requires no UIC change or property book change.
  - The owning battalion can transfer aircraft from one flight company to another. This action is performed by PC and requires a UIC change and property book change.
  - Aircraft may be permanently transferred out of the organization. This action is performed by PC and requires a property book change, which completely removes the aircraft from the owning unit.
  - Aircraft may be "temporarily transferred" to support maintenance, for the sole purpose of operational/historical records management.

  Note: The flexibility allowed within the basic transfer situations provides ULLS-A with the capability to transfer aircraft "operational/historical" records to support the mission of "task organization."
- The aviation depot uses diskettes to transfer ULLS-A data in and out of field units.

DATA TRANSFER

A-14. ULLS-A is a network of multiple computers within an aviation battalion. The data transfer process keeps all parts of the network up to date by exchanging information, in file format, between flight company systems and the AVUM. The Data Transfer process must run daily to synchronize the data. Data transfer may be performed via telecommunications (modem and commercial telephone line) or by an exchange of diskettes between flight companies and the AVUM. Data transfer files are processed and maintained sequentially. A history of data transfer files is maintained within each system. This supports the recovery effort if the transfer diskette is lost or communications is interrupted during processing.

FLIGHT COMPANY

A-15. ULLS-A at the flight company exchanges operational aircraft records information, Class IX part demands, and readiness information data daily with the ULLS-A system at PC in the AVUM. This is accomplished using commercial/garrison telephone line and modem. Tactical telecommunications is not available for this interface due to the forward deployment of the flight companies, lack of tactical telephone access, and limited availability to TTAs. As an alternate method of interface, floppy diskettes may be exchanged.

PRODUCTION CONTROL

A-16. The AVUM ULLS-A PC workstation sends AMSS rollup data to the brigade ULLS-A using floppy diskette. The data should be sent daily/monthly, at the end of the reporting period, or upon request from the brigade. ULLS-A is capable of transmitting the AMSS data produced on diskette to brigade using telecommunications interface process. Through this two step process, telecommunications (garrison and tactical) is possible.

- The AVUM ULLS-A PC workstation processes support maintenance requests with SAMS-1, the AVIM PC. This can be accomplished via telecommunications (garrison and tactical) or by floppy diskette. Customer workorder status is processed to AVUM daily from the AVIM via modem or diskette.
- The AVUM ULLS-A PC workstation sends inoperative equipment report (XMJ records), customer workorder (XML records) and high priority parts report (XMK records) (AWAME125.DAT) to the SAMS-1 located at the AVIM PC. This can be accomplished via telecommunications (garrison and tactical) or by floppy diskette. AVIM PC processes customer workorder status (XMS Records) to AVUM. The reporting unit "AMSS reporting and history file", (AWAME130.DAT) is processed to SAMS-1 at the completion of each report period. This file is then processed to SAMS-2 and LOGSA.

TECHNICAL SUPPLY

A-17. The ULLS-A TS workstation exchanges supply information daily. It passes requests to SARSS-1 at the AVIM and receives request status back. This can be accomplished via telecommunications (garrison and tactical) or by floppy diskette. If the TS workstation becomes inoperative, PC may send and receive data from SARSS-1. If a modem is used at PC to receive status, SARSS-1 must change the dial up telephone number.

- The ULLS-A TS workstation exchanges supply information. It passes requests as required to the gateway and receives status, to be processed by OSC. This interface is only possible via modem and garrison/ commercial telephone line.
- TS can send financial expenditure data as required to the ULLS-S4 primarily via floppy disk or LAN. Telecommunications (garrison and tactical) is possible via the concentrator or point-to-point. The unit parameters must be set to accomplish this task.

COMMON ERRORS

A-18. Because daily data transfer is extremely critical to the successful operation of ULLS-A, you should be aware of common problems that can occur with data transfer. These problems include the following:

- Unit fails to establish a SOP for unit data transfer procedures that ensures consistent, uninterrupted daily transfer of data.
- User fails to perform daily transfer of ULLS-A data.
- User fails to perform backup of data prior to data transfer.
- User fails to properly label or protect diskettes.
- User fails to establish a proper diskette filing system for archived log files.
- User abnormally aborts out of the data transfer process.

- User is unable to respond to error/problem situations that may occur. User fails to refer to the EM.
- “HAYES” is not entered in the modem type field of the hardware parameters.

ARMY MATERIEL STATUS SYSTEM

A-19. AMSS has been developed to replace the manual readiness reporting requirements outlined in AR 700-138. As ULLS-A is fielded, the AMSS end-of-report-period file and Commander's Statement will replace the DA Form 1352. ULLS-A becomes the system of record, once fielded. The MMDF provides ULLS-A with standards and tables for readiness reporting. AMSS is also incorporated into ULLS-G and replaces DA Form 2406 and DA Form 3266-1. AMSS, in both ULLS-A and ULLS-G, replaces the manual readiness reporting requirements with a single automated readiness reporting system and will become the system of record for all materiel status reporting in the Army.

COMMANDER’S TOOL

A-20. AMSS is intended to become the commander's link to monitoring the supply and maintenance posture of the unit. AMSS has the capability to consolidate the "real time" materiel status information received from subordinate units and is used for the purpose of monitoring and reporting their materiel readiness status. AMSS accumulates NMC maintenance data, PMC maintenance data, and NMC parts information for all reportable end items, weapon systems and subsystems and has the capability to receive support and depot level NMC data from the SAMS-1. NMC time due to an equipment shortage (NMCE) is not included in AMSS at this time. AMSS does not track reportable subsystems not on-hand that affect reportable weapon system NMC time.

LOGISTICS SUPPORT ACTIVITY

A-21. The capability of maintaining required, authorized, and on-hand equipment data is also included in AMSS. The SAMS will be the data path used to transfer the AMSS data to LOGSA. Consolidated data will provide the Army with the capability of monitoring the materiel readiness status of the fleet and will also provide the visibility necessary to effectively manage the Army's weapons systems.

END OF REPORT PERIOD

A-22. This option will replace the DA Form 1352. This process does not print an automated DA Form 1352. It creates a data file that includes the accumulated NMC time for each reportable aircraft and weapon system from the 16th day of the previous month at 0001 hours through the 15th day of the current month at 2400 hours. If this process is executed prior to the 15 of the month, it will project the accumulated NMC time for each item based on the current status, to the end of the current report period. In addition, the system will reset the report period end date for the next report period. Because of this projection capability, it is strongly recommended that all statuses on open maintenance requests from SAMS-1 be posted prior to executing this process. Statuses on all open document numbers need to be as current as possible. Lastly, this process will generate two hard copy reports, the "Output Listing: AWAME130.DAT", and the AMSS required commander's statement, a listing of aircraft which require remarks on the commander's statement. This process can create the file on disk or transmit the file via telecommunications. See AR 700-138 for time frame in submitting EOM report.

DEFINITIONS AND REQUIREMENTS FOR ARMY MATERIEL STATUS SYSTEM

A-23. The definitions and requirements concerning the development of AMSS in ULLS-A were provided by USAMC and are listed below.

Reportable Aircraft

A-24. All Army aircraft will be reported according to AR 700-138. Individual aircraft readiness goals are defined in Chapter 3 of AR 700-138. Aircraft and flight simulators listed there are reportable.

Reportable Subsystems

A-25. Reportable subsystems are subsystems such as missile, armament, and communications systems identified by LOGSA with EIC. These EICs are found within the MMDF. Some weapon systems are firing weapons. For example, the AN/ARN-89B Direction Finder Set and the M272 Launcher Guided Missile are considered weapons in ULLS-A. Both the aircraft and the weapons must be operational for the aircraft weapons system to be rated FMC.

Primary Subsystems

A-26. Primary subsystems are the airframe on which the required subsystems are authorized/installed. In the case of an AH-64A Apache attack helicopter, the aircraft is designed as the primary subsystem and the aircraft's radios, navigational systems, missile launcher, and armament subsystems together form the weapons systems. Quantifying subsystems in this way allows PMC time to be linked to the aircraft weapons system.

SAGE DATABASE INQUIRY

A-27. ULLS-A contains a powerful database query system called SDI. All information stored in ULLS-A, except for user IDs and passwords, is accessible to any ULLS-A user through locally designed SDI reports. The SDI allows the user to search the database and, if desired, generate specialized reports. It enables the unit operator to create, save, and edit queries without the assistance of a programmer or extensive knowledge of the database structure. Once the operator has created his report, he can display the information on the screen, print the report, or create a file and copy it into a diskette.

SYSTEM SECURITY

A-28. In addition to the computer's built-in password, ULLS-A has security features designed to protect the integrity of the database according to AR 380-19. The security features include a warning banner indicating this is a DOD interest computer system for "Official Use Only" and is subject to monitoring. A system of user identification and password is used to control access to the program. User ID and passwords will be assigned by a TASO who should also be an ULLS-A administrator. Passwords will be updated every 180 days. Anyone trying to gain access will have three attempts to enter the correct data. After the third attempt, the system locks the user out. A special diskette must be used to reactivate the user ID. Users of ULLS-A will not have access to a DOS prompt. Finally, a C^2 audit program records each major event by user ID. Commanders must make sure security awareness training has been provided for each ULLS-A operator.

CONTINUITY OF OPERATIONS PLANNING

A-29. ULLS-A has a high level of reliability in garrison and in the field. However, operating conditions make it inevitable that ULLS-A systems will be replaced and restored under field conditions. Army regulation requires that every automated system be designed and operated in a manner that allows a unit to recover from battlefield damage and other catastrophic failures. The planning and standing operating procedures that assist the unit with recovery are referred to as COOP. Every commander using STAMIS, such as ULLS-A, is responsible to ensure that COOP plans are prepared and incorporated into unit SOP. Every ULLS-A user has a role in ensuring successful continuity of operations. COOP for ULLS-A requires daily backups created, labeled, and secured by operators. System support is needed to build replacement systems. ULLS-A administrators will assist system support and the unit in many ways to guide the successful restoration of unit data. After the systems are restored, ULLS-A operators should be directed to check the data and may be required to reenter some data lost due to the timing of the failure. Commanders should ensure that COOP is considered and that adequate procedures are documented in the unit SOP. The ULLS-A administrator should be appointed as the commander's representative on matters related to COOP.

ULLS-A PROCEDURES

A-30. The exact procedures for the use of ULLS-A will vary between units, so unit internal and external SOPs must discuss its use. The ULLS-A commander’s guide contains a sample ULLS-A internal SOP. The guide also contains a checklist for commanders to inspect the flight company operations, PC, QC, TS, brigade aviation maintenance office, and other general areas. The ULLS-A end user manual covers all aspects of the supply, maintenance, utility and AMSS operations performed by ULLS-A and should remain the primary source of information for system operation and maintenance.